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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,840	05/26/2006	Bardo Schmitt	291277US0PCT	7581
22850	7590	12/12/2007		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER VALENROD, YEVGENY	
			ART UNIT	PAPER NUMBER
			1621	
			NOTIFICATION DATE	DELIVERY MODE
			12/12/2007	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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## Office Action Summary

Application No.

10/580,840

Applicant(s)

SCHMITT ET AL.

Examiner

Yevgeny Valenrod

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 6 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 9-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 9/20/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, claims 1-8 and 13, in the reply filed on 10/15/07 is acknowledged. The traversal is on the ground(s) that the contents of the claims were not interpreted in light of description. This is not found persuasive because the full disclosure of the specification was considered in making the lack of unity determination.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (US 4,202,990) in view of Just et al. (US 4,772,666).

Instant claims 1-8 and 13 are directed towards a process for preparing (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate via trans-esterification reaction comprising trans-esterifying methyl methacrylate with glycerol. Zirconium acetylacetonate is the preferred catalyst for reaction and hydroquinone type stabilizers are described in the specification as acceptable stabilizers.

*Scope of prior art*

Murakami et al. describe preparation of methacrylate esters via trans-esterification of methyl methacrylate with an alcohol in the presence of hydroquinone monomethyl ether (0.09% of total weight) and zirconium acetylacetonate (0.14% of total weight) (see example 1, column 3, where n-butyl methacrylate is produced).

*Ascertaining the difference*

Murakami et al. do not prepare (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate as instantly claimed.

Murakami et al use temperature that is outside of 50-80°C as claimed by the applicants.

The amount of catalyst and stabilizer used by Murakami is outside the ranges specified in claim 6.

Murakami et al do not disclose the amount of crosslinker formed in the process.

*Secondary reference*

Just et al. teach that (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate finds utility in coating that are distinguished by rapid curing, good solvent stability and good adhesive power (abstract, column 3 line 54).

*Obviousness*

One of ordinary skill in the art interested in preparing (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate for use in preparation of coatings as described by Just et al. would be motivated to prepare (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate using readily available methodology for preparation of methacrylate esters. Murakami et al. teach such methodology. Although Example 1 of Murakami is limited to preparation of

butyl esters, examples 3-5 and 16-17 in columns 4 and 5 respectively, are directed to preparation of various other methacrylate esters. In all examples ester yield is above 98 %. Such results would motivate a practitioner of ordinary skill to apply the described process to produce esters not exemplified by Murakami et al such as (2-oxo-1,3-dioxolan-4-yl)methyl methacrylate.

For preparation of n-butyl methacrylate Murakami et al. report 99.2% yield. The amount of crosslinker formed is therefore inherently less than 3% by weight.

One of ordinary skill in the art would find it obvious to alter reaction conditions such as temperature and concentration of reagents in order to find optimal condition for the process.

### ***Conclusion***

Claims 1-13 are pending

Claims 9-12 are withdrawn

Claims 1-7 and 13 are rejected.

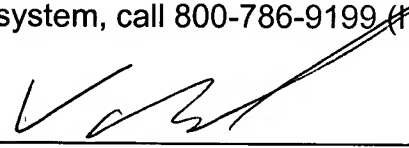
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yevgeny Valenrod whose telephone number is 571-272-9049. The examiner can normally be reached on 8:30am-5:00pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-072-1000.

  
Yevgeny Valenrod  
Patent Examiner  
Technology Center 1600

  
**PRIMARY EXAMINER**

*for*  
Yvonne Eyler  
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